

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 414/04400	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/IL2005/000135	International filing date (day/month/year) 04/02/2005	(Earliest) Priority Date (day/month/year) 05/02/2004
Applicant REABILITY INC.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 4

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

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International application No.

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

Apparatus for rehabilitating a patient who has a paretic body part (146), the apparatus comprising:

- a) at least one electromyography (EMG) sensor adapted to being applied to a voluntary muscle of a healthy body part of the same type as the paretic body part, which at least one sensor produces at least one EMG signal;
- b) a neuromuscular electrical stimulation (NMES) device (126) adapted for stimulating at least one voluntary muscle of the paretic body part; and
- c) a controller (124) which controls the NMES device, making the amplitude of stimulation of the paretic body part at least partly dependent on the EMG signal from the healthy body part.

In another embodiment, where only a paretic body part is used, the amplitude of stimulation is not sufficient to cause contraction by itself but only together with the patient's own nerve impulses.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IL2005/000135A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61N1/36 A61B5/0488

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61N A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 02/092164 A (FONDATION SUISSE POUR LES CYBERTHESES; BRODARD, ROLAND; CLAVEL, REYMON) 21 November 2002 (2002-11-21) page 14, paragraph 8 - page 15, paragraph 3 page 17, paragraph 7 - page 18, paragraph 2 page 18, paragraph 5 page 19, paragraph 4 - page 20, paragraph 5; figure 1 ----- -/-	1-16, 18, 19, 23-30 17, 20-22, 31

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

23 May 2005

Date of mailing of the international search report

03/06/2005

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4 582 049 A (YLVISAKER ET AL) 15 April 1986 (1986-04-15) column 2, lines 25-35 column 2, line 51 - column 3, line 26 column 4, lines 17-43 column 5, lines 33-50; figure 1	1-3, 8-10, 14-17 4-7, 11-13, 18-31
X A	GRAUPE D: "EMG PATTERN ANALYSIS FOR PATIENT-RESPONSIVE CONTROL OF FES IN PARAPLEGICS FOR WALKER-SUPPORTED WALKING" IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING, IEEE INC. NEW YORK, US, vol. 36, no. 7, 1 July 1989 (1989-07-01), pages 711-719, XP000037463 ISSN: 0018-9294 page 711, left-hand column, paragraph 1 - right-hand column, paragraph 1; figures 3,5 page 716, left-hand column, paragraph 1	1,3, 8-10,14, 16,17,19 31
X A	WO 02/13673 A (STIMEL LTD; KOTLIK, BEN-ZION; ZUKER, MORRIS) 21 February 2002 (2002-02-21) page 10, lines 25-32 page 11, line 30 - page 12, line 11 page 12, line 25 - page 13, line 1; figure 1	31-35 1
X A	PEASGOOD W ET AL: "EMG-controlled closed loop electrical stimulation using a digital signal processor" ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 36, no. 22, 26 October 2000 (2000-10-26), pages 1832-1833, XP006015871 ISSN: 0013-5194 page 1832, left-hand column, paragraph 1; figure 1 page 1833, right-hand column, paragraph 1	31-35 1

INTERNATIONAL SEARCH REPORT

International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 36-46
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/IL2005/000135

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02092164	A	21-11-2002	CA 2446875 A1	21-11-2002
			WO 02092164 A2	21-11-2002
			EP 1387712 A2	11-02-2004
			JP 2004526541 T	02-09-2004
			US 2004172097 A1	02-09-2004
US 4582049	A	15-04-1986	DE 3516279 A1	13-11-1986
			FR 2580934 A1	31-10-1986
			GB 2175504 A	03-12-1986
WO 0213673	A	21-02-2002	AU 8007001 A	25-02-2002
			EP 1311320 A2	21-05-2003
			WO 0213673 A2	21-02-2002
			US 2003208246 A1	06-11-2003